

## **Real-time Leaky Lamb Wave Spectrum Measurement and Its Application to NDE of Composites**

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### **ABSTRACT**

Numerous analytical and theoretical studies of the behavior of leaky Lamb waves (LLW) in composite materials were documented in the literature. One of the key issues that are constraining the application of this method as a practical tool is the amount of data that needs to be acquired and the slow process that is involved with such experiments. Recently, a methodology that allows quasi real-time acquisition of LLW dispersion data was developed. At each angle of incidence the reflection spectrum is available in real time from the experimental setup and it can be used for rapid detection of the defects. This technique can be used to rapidly acquire the various plate wave modes along various angles of incidence for the characterization of the material elastic properties. The experimental method and data acquisition technique will be described in this paper. Experimental data was used to examine a series of flaws including porosity and delaminations and demonstrated the efficiency of the developed technique.